

TECHNICAL MANAGEMENT TEAM
MEETING NOTES
April 10, 2002
CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM
HOUSE
PORTLAND, OREGON

TMT Internet Homepage: <http://www.nwd-wc.usace.army.mil/TMT/index.html>

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FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

Hanford Reach/Vernita Bar Update:

Chris Carlson reported on discharges out of Priest Rapids for April 1 – 7. 1, 268 fish were found on April 3. On April 5, fourteen mortalities were found; April 6, fifteen were found; and April 7, eight were found. They had to digress from the regular program because of a test at Priest Rapids and hope to avoid this in the future. All information will be posted on the old TMT website, under Discussion Forum. Chris will report again at the April 24 TMT meeting.

Water Management Plan (WMP):

Comments: The Federal attorneys are still reviewing the response to comment on the WMP.

Spring/Summer Update: Scott Boyd handed out a rough draft of the Update, which does not include the April final forecast numbers. Note: Do not rely on this draft for substantive information, as it has not all been put into the update! Scott presented the draft so TMT could see the direction the update is taking. He explained the QADJ 59-year chart calculations. He will continue to refine and bring the final update to a future TMT meeting.

Action: The Action Agencies will send a more accurate update (with the April data) to TMT members as soon as it is available. The update will be discussed at the next TMT meeting and Scott will inform TMT members as soon as it is posted on the web site.

Review Current System Conditions:

Water Supply Forecast: Harold Opitz reported on precipitation forecasts. He noted “quite a variation” throughout the region for precipitation as of March 31 and suggested near or slightly below normal overall precipitation for the year. The April to June forecast shows

a slight chance of being above normal, while October to December shows a slight chance of being below normal.

There are some glitches with the new ESP model, as well as training and testing issues at the RFC. Harold said the new model will be available anywhere from two weeks to two months from now. TMT noted that it would be useful to have some spreadsheet overlap for use as soon as possible, and they look forward to utilizing the new tools!

Reservoir Operations: The system is operating to meet end of April flood control points. Libby is at 2370' now, and should refill in July. Grand Coulee is at 1264' and will meet its April 30 target of 1245'. Hungry Horse is well below flood control and may increase slightly this month. Contrary to previous projections, all upper Snake reservoirs (including Boise/Payette) will struggle to fill. Dworshak is at 1507' and will release 5 kcfs spill through April. Ron Boyce asked whether there are any headwater "Confidence of Refill" charts for the Snake River projects.

Action: Tony Norris will check on available data from the BOR. Ron Boyce would like to see the information only if it's readily available, not wanting to make more work.

Kyle Martin registered concern on behalf of the CRITFC Tribes regarding Dworshak operations and their fear that current operations will create a hole in the reservoir. The COE is monitoring this on a daily basis and will continue to have discussions at TMT. Fish are expected to arrive at the project the first ten days of May.

Water Quality: Spill at Lower Granite began April 3, but exceedance of gas levels caused a reduction of spill for the next few days. The COE is working on the issue and trying to get spill up to 50-60 kcfs without exceeding the state-mandated gas levels. At Little Goose, 50 kcfs spill began April 5 at 6 pm. Adjustments were made April 6 for gas levels; the COE is monitoring and evaluating this project on a daily basis and adjusting spill as needed.

Fish: The Salmon Managers are seeing a steady increase of juveniles at Lower Granite and Little Goose. Adult chinook passage at Bonneville is steadily increasing as well. Ron Boyce reported that estimated chum emergence dates are March 31, April 11, and May 5. The emergence numbers thus far look good. Temperature will be a key factor as chum fry respond better to warmer temperatures.

Spring System Operations for Fish on the Lower Snake and Columbia:

Spill: Donna Silverberg developed a "TMT Spill Matrix" that listed projects and their expected spill operations. The following is a summary of spring spill decisions at each of the projects discussed at today's meeting:

- Lower Granite: Spill is currently at 44 kcfs at eight spill bays; COE is evaluating daily for gas levels.
- Little Goose: While managing dissolved gas, spill will occur for a 24-hour period until May 1, then 12-hour spill from 6 pm to 6 am.

- Lower Monumental: No spill will occur for fish passage, but some involuntary spill could occur in May. The juvenile fish passage facility will operate on full-flow bypass through April, except operation of the separator for fish sampling and evaluation of condition 1 hour per week (Monday at 10 am).
- Ice Harbor: NMFS' proposed change is to move the spill start up a day, to April 10 at 6 pm, due to sufficient numbers of fish – no objections were made from TMT.
- McNary: There are still problems with water on the walkway, but the COE is working with contractors to move the bridge or make changes to spill patterns; spill is expected to begin April 10 at 4 pm.
- John Day: Spill begins April 10 at 6 pm; research project operations begin at 8 pm, which may require a spill pattern change – Rudd Turner will work with the contractors; the group agreed there are enough fish at this project to begin spill.
- The Dalles: The Corps' fish biologists requested two changes to this spill operation for test purposes. Ramp bays 4 and 9 up after all other bays at the beginning of spill. This will slow the whole spill operation down from 15 minutes to 30-60 minutes so that data can be collected. They also requested transitioning to 40% spill over two hours instead of one to get data similar to last year's flows duplicated this year. TMT supported these requests. Spill will begin April 10 at 6 pm for 24 hours at 40%.
- Bonneville: Spill of 50 kcfs will begin April 10 at 6 pm until April 12, then adjust to the gas cap while providing depth compensation for emerging chum salmon at redds downstream of the project. Also, open Bay 18 for 5-10 minutes at the start of the operation to test a possible problem with the walkway structure.

Lower Snake Reservoir Operation to Minimize Lower Monumental Spill:

The COE said there is not sufficient justification to shape the water at this time, but the issue could re-surface in May. TMT voiced no objections.

Next Meeting, April 10, 9 am:

Agenda items:

- Hanford Reach Update
- WMP Comments, Spring/Summer Update
- Current System Operations – Fish and Projects
- Dworshak – CRITFC Concerns and Update on Elevation
- SOR for Sturgeon Pulse
- Forecast Error Tools – Harold Opitz
- Develop Recommended Operations

1. Greeting and Introductions

The April 10 Technical Management Team meeting was chaired by Cindy Henriksen of the Corps and facilitated by Donna Silverberg. The following is a distillation, not a verbatim transcript, of items discussed at the meeting and actions taken. Anyone with questions or comments about these minutes should call Henriksen at 503/808-3945.

2. Hanford Reach Update.

Chris Carlson said that, for the period of April 1-7, on April 1, the average discharge from Priest Rapids was 53.3 Kcfs, with a minimum of 53.1 Kcfs. On April 3, the average discharge was 58.8 Kcfs, with a minimum discharge of 53.1 Kcfs and a maximum of 73.4 Kcfs. The average flow on April 4 was 64.7 Kcfs, with a minimum of 55.1 Kcfs and a maximum of 72.7 Kcfs. On April 5, the average was 67.2 Kcfs, with a minimum discharge of 52.8 Kcfs and a maximum of 98.5 Kcfs. On April 6, the average Priest Rapids discharge was 54.3 Kcfs, with a minimum of 53 Kcfs and a maximum of 67.8 Kcfs. On April 7, average discharge was 53.8 Kcfs, with a minimum of 53.1 Kcfs and a maximum of 54.6 Kcfs. A 20 Kcfs flow band was in place all week, Carlson reported.

On April 3, field crews doing index monitoring found 1,268 fish, Carlson continued. On April 10, they checked five sites for mortalities, finding 72 fish, 14 of which were dead. On April 6, field crews examined seven sites, finding 15 stranded fish, all of which were dead. On April 7, they looked at six sites, finding eight mortalities, Carlson said.

Any sense of when emergence might end this year? Scott Bettin asked. We're currently about 110 temperature units away from the end of emergence, Carlson replied; we've been gaining about seven temperature units per day. That gives us 13 to 14 more days of emergence, which would put us at April 23 or 24, said Carlson; if it gets warmer, as you would expect it to do, emergence could end a couple of days sooner than that – say April 21.

3. 2002 Water Management Plan.

Scott Boyd reported that Corps legal staff is still reviewing the most recent draft of the 2002 Water Management Plan; he said he doesn't know, at this time, when that draft will find its way back to the TMT. Boyd distributed what he called a very rough draft of the spring/summer update to the 2002 WMP, noting that he is in the process of incorporating the April final water supply forecast into this document. Boyd said he should have a more complete draft of the update ready in time for the next TMT meeting two weeks hence; he said he will post it to the TMT homepage as soon as it is ready.

Will there be an opportunity for the states and tribes to comment on the spring/summer update? Boyce asked. I don't know that we want to get into a formal

comment process, in which the action agencies are compelled to provide a written response to all of the comments received, Boyd replied; however, you will have an opportunity for review, and if there is something you strongly disagree with, or there is a piece of information you feel should be added, we'll be happy to accommodate you.

4. Current System Conditions.

Harold Opitz of the River Forecast Center provided an overview of current water supply forecast, meteorological and reservoir elevation data. In general, he said, snowpacks are ranging from 140% of normal in the Clearwater Basin to near-normal in the Snake River above Ice Harbor and the Columbia above Castlegar. At Grand Coulee, the April final January-July water supply forecast was 61.1 MAF, 97% of normal. At Lower Granite, the April final forecast was down slightly to 24.2 MAF, 81% of normal. The April final forecast at The Dalles also went down slightly to 96.4 MAF, 90% of average. Overall, said Opitz, the comment I made in January still stands – in all likelihood, we're looking at a water year that is near or slightly below-normal in 2002. In response to a question from Paul Wagner, Opitz said the standard error around these forecasts is +/- 5.1 MAF at Grand Coulee, +/- 2.9 MAF at Lower Granite and +/- 8.2 MAF at The Dalles.

Moving on to the most recent 30-day meteorological forecast, Opitz said there is a slightly higher (about 40%) chance of above-normal temperatures and precipitation in most of the Northwest. For the May-July period, the forecast indicates a slightly higher chance of above-normal temperatures and precipitation; for the October-December period, the forecast indicates a slightly-elevated chance of below-normal precipitation. There are some indications that the Northwest may be entering an El Niño event over the next seven to eight months, Opitz said. Kyle Martin added that the information he has seen indicates that this will be a relatively weak El Niño; if so, it will yield below-normal precipitation across the basin, but how far below normal is anyone's guess at this point.

Moving on, Henriksen reported that the operation of the system continues to be geared toward meeting the April 30 flood control points for the headwater storage projects. Libby continues to release 4 Kcfs, and is currently near elevation 2370. That operation is expected to persist for at least the next two weeks. Tony Norris said Grand Coulee is now at elevation 1264 feet, headed down toward its April 30 flood control elevation of 1245 feet at a rate of 1.5 feet per day. Hungry Horse is currently at elevation 3509 feet, below its April 30 flood control elevation of 3542 feet. Inflows are starting to pick up at that project, Norris said.

Norris added that, last week, he had mentioned that the Upper Snake River projects, with the exception of those on the Boise and Payette, would struggle to refill in 2002; that is no longer the case, he said – it now appears that the Boise and Payette projects also will struggle to refill this year. Does it appear that the 427 KAF in Upper Snake flow augmentation water is going to be jeopardized this year? Boyce asked. The Bureau is going to make every effort to secure enough water to allow us to provide the

427 KAF, Norris replied; however, at this point, I can't tell you how much is going to be available.

Henriksen reported that the current Dworshak elevation is 1507 feet; the project is releasing 15 Kcfs, about 5 Kcfs of which is spill. That rate of outflow is expected to continue for the foreseeable future, she said. Henriksen referred the group's attention to the most recent flow/volume histograms prepared by the Corps, noting that, for the April 1-June 30 period, at Dworshak, the available flow augmentation volume would be 1,199 KAF if a 30% confidence of refill is assumed; it would be 1,078 KAF at a 50% refill confidence and 955 KAF at a 70% refill confidence. At Libby, the available flow augmentation volumes are 806 KAF at 30% confidence of refill, 538 KAF at 50% refill confidence and 320 KAF at 70% confidence. At Hungry Horse, the available flow augmentation volumes are now predicted to be 589 KAF at 30% confidence of refill, 530 KAF at 50% confidence and 429 KAF at 70% confidence.

Henriksen also distributed a series of graphs illustrating the percent confidence of 2002 refill at Libby, Hungry Horse and Dworshak if various April 30 reservoir elevations are assumed; she noted that the individual water supply forecasts at these projects increased somewhat, based on the April final water supply forecast, while the forecasts at Grand Coulee, Lower Granite and The Dalles decreased slightly.

Martin said CRITFC is less than comfortable with the current Dworshak operation, noting that there the forecast on which the Corps is basing this operation is more than 100 KAF more optimistic than the RFC's runoff volume forecast for the Dworshak. He noted that this could mean a difference of more than 10 feet in Dworshak's June elevation; the Nez Perce Tribe in particular wants to ensure that we do everything we can to make sure Dworshak refills by June 30, Martin said. What is the April 30 elevation target at Dworshak? Boyce asked. We don't know, at this point, Henriksen replied – we're planning to release 15.8 Kcfs through the end of the month, while keeping a close eye on these curves and observed inflow. If the runoff shape indicates that the observed elevation point to exceed these curves, she said, we may need to increase Dworshak outflow and exceed the TDG standard to ensure adequate flood control space. Wagner said NMFS is comfortable with the current Dworshak operation; in our view, he said, there is plenty of volume to get to refill at that project. The current discharge is consistent with what we would advocate, in terms of a fishery operation, he said. Obviously we need to monitor the situation, Wagner said, but from the looks of things, we would need to try very hard if we are to avoid refilling Dworshak in 2002.

Nancy Yun briefed the group on the current water quality situation, noting that spill had been adjusted last week to accommodate the removable spillway weir (RSW) test at Lower Granite. Rudd Turner said there was some concern about the fish release pipe located at the RSW, but that, last night, the Corps authorized a spill increase to 44 Kcfs at Lower Granite, which resulted in a tailrace TDG reading of 119%. We're planning to hold spill at 44 Kcfs tonight, to see where TDG levels end up before we explore a higher spill volume tomorrow night, Henriksen said. The group also discussed spill operations at the other Lower Snake River projects; the message here, said

Henriksen, is that, throughout the spring season, we will be monitoring and re-evaluating our operations on a daily basis, to ensure that we stay within the 120% tailwater and 115% forebay TDG standard.

With respect to the fish migration status, Wagner said the 2002 outmigration proceeds apace; the fish began to appear in substantial numbers at Lower Monumental beginning April 4. We had planned to begin spill at Ice Harbor on April 11, based on travel time calculations from Ice Harbor to Lower Granite, Wagner said; these fish are ahead of schedule. We will not be seeing any additional information from Lower Monumental for a while, because full-flow bypass is in effect at that project, he said. Wagner said the indices at McNary and John Day are increasing slowly. Adult spring chinook counts at Bonneville are also on the rise, with approximately 3,000 adults counted past Bonneville yesterday. Wagner said Ives Island emergence numbers indicate good emergence for both chum and chinook fry; for that reason, flows need to be maintained at a stable or increasing level as water temperatures start to increase.

5. Spring System Operations for Fish in the Lower Snake and Columbia.

The group reviewed a handout titled “TMT Spill Matrix, which detailed project-by-project expected spill and start date. The results of their deliberations were as follows:

Project	Expected Spill and Start Date	Status
Lower Granite	April 3, 6 p.m.	Monitor daily to operate to gas cap at night
Little Goose	April 5, 6 p.m.	Monitor for dissolved gas and spill will drop as needed until May 1, when the project will go to 12-hour spill
Lower Monumental	No voluntary spill, operate juvenile facilities in full-flow bypass mode until May 1, 7 a.m.	There may be involuntary spill for several weeks after May 1 due to high river flows. Also the fish separator will operate for one hour, one day per week for fish sampling.
Ice Harbor	April 10 – 5 a.m.	Operation to begin April 10, rather than April 11, due to influx of smolts. This includes 45 kcfs day spill limit.
McNary	April 10 – planning date	Spill will begin at 6 p.m. tonight; need to remove construction bridges over the next couple of weeks and will monitor operations.

John Day	April 10 – planning date	Spill to begin at 6 p.m. No daytime spill; 60% nighttime spill. Maintenance could delay the 4/10 start
The Dalles	April 10 – planning date	Begin spill at 6 p.m. tonight at 40% of total river flow. Due to recent installs in Bays 4 and 9, pressure transducers need two-hour ramp-up to 40% spill.
Bonneville	April 10 – planning date	Spill to begin at 6 p.m. tonight. The Corps requested that Spill Bay 18 be opened to 4 feet for a few minutes to ensure that the bridge will not be damaged by this spill volume. It was agreed to spill to the gas cap and use the Warrendale gauge and project tailwater to monitor TDG and depth compensation at chum redds. Spill levels will be adjusted on Friday once spilled water from The Dalles reaches Bonneville.

6. Lower Snake Reservoir Operation to Minimize Lower Monumental Spill.

It was reported that this is no longer an issue until at least May.

7. New System Operations Requests.

No new system operational requests were received prior to today's meeting.

8. Develop Recommended Operations.

Recommended operations were detailed during a previous agenda item.

9. Next TMT Meeting Date.

The next meeting of the Technical Management Team was set for Wednesday, April 24. Meeting summary prepared by Jeff Kuechle, BPA contractor.

TMT ATTENDANCE LIST

April 10, 2002

Name	Affiliation
Colin Beam	PPM
Scott Bettin	BPA
Ron Boyce	ODFW
Scott Boyd	COE
Mike Buchko	PowerX
Ruth Burris	PGE
David Clugston	COE
Timothy Coffing	UDSW
Scott Corwin	PNGC
Sean Cradall	UBS
Laurie Ebner	COE
Robin Harkless	Facilitation Team
Richelle Harding	D. Rohr & Associates
Cindy Henriksen	COE
Kyle Martin	CRITFC
Kevin Nordt	PGE
Tony Norris	Reclamation
Mike O'Bryant	Columbia Basin Bulletin
Rick Pendergrass	BPA
Todd Perry	AEP
Chris Ross	NMFS
Shane Scott	WDFW
Donna Silverberg	Facilitation Team
Rudd Turner	COE
Paul Wagner	NMFS
Steven Wallace	PacifiCorp
David Wills	USFWS
Nancy Yun	COE

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